

close to the base, the second beyond the middle: secondaries pale brown, palest at the base. The head, antennæ, and thorax dark brown; abdomen reddish brown, the anal tuft dark brown.

Expanse $1\frac{1}{2}$ inch.

Hab. New Caledonia (*Mus. Druce*).

Miresa alma, sp. n.

Male.—Primaries and secondaries uniformly creamy white, shaded with yellowish brown along the inner margins of the secondaries. The head, antennæ, and thorax creamy white; abdomen black, banded with yellow; the legs dark brown.

Expanse $1\frac{3}{4}$ inch.

Hab. New Caledonia (*Mus. Druce*).

XXXIII.—*Note on the Specific Name of the Saccammina of the Carboniferous Limestone.* By FREDERICK CHAPMAN, A.L.S., F.R.M.S.

IN the course of some investigations amongst Microzoa from the Carboniferous Limestone of Ireland I have met with the well-known Carboniferous foraminifer *Saccammina* in some abundance.

So far as I was aware *S. Carteri*, Brady, had not been definitely recorded (under that name) from the Irish limestones, excepting a general remark which Dr. H. B. Brady made in his report on the Foraminifera of the 'Challenger' Expedition in 1884*.

In 1849 †, however, McCoy had recorded certain foraminifera from the Carboniferous Limestone of Ireland, to which he gave the name of "*Nodosaria fusulinaformis*." These specimens were described, but not figured, and up to the present appear to have been regarded as too ill-defined for the name to be retained; and, moreover, the name *Saccammina Carteri* had been fully established before McCoy's species had been, as it were, rediscovered.

The evidence for *Nodosaria fusuliniformis* of McCoy has been therefore carefully examined, and by the present note I think it will be seen to be identical with Brady's *Saccammina Carteri*.

* Zoology, vol. ix. p. 253.

† "On some new Genera and Species of Palæozoic Corals and Foraminifera," Ann. & Mag. Nat. Hist. ser. 2, vol. iii. pp. 131, 132.

The first record of these Irish specimens was made, as before stated, by McCoy in 1849, when he gave the following description of the fossil* :—

“ *Nodosaria fusulinaformis*.

“ *Sp. Char.*—Shell of two or more inflated, pyriform, easily separable lodges, the first one having a small mucronate point at its posterior end, and contracted to a very slender, short neck at the anterior end, which joins the pyriform second cell, which is also contracted to a similar minute neck in front; surface smooth. Length of individual cells averaging 1 line, width $\frac{2}{3}$ of a line.”

McCoy also mentioned the very characteristic feature, well-known in the Carboniferous *Saccamina*, of the segments uniting in a moniliform series. He states that “The lodges or cells are almost always found separated (from the minuteness of the connecting neck), which gives them the striking resemblance to *Fusulina* above alluded to; I have heard, however, of several of them having been united in a line by their little necks, and I have myself seen two thus united, and the posterior cell not being a terminal one.”

The organism was found “in great numbers on the weathered surfaces of the Carboniferous Limestone in the parish of Shivey, Tyrone, in the North of Ireland.”

Although no figure was given with the description, it appears to me to give the chief characters of the fossil as regards the material available to McCoy, and in point of fact the description could not be applied to any other foraminifer occurring in the Carboniferous Limestone. The chief stumbling-block to the acceptance of McCoy’s name seems to be the comparison which he made between this form and d’Orbigny’s *Nodosaria rudis* and *N. rugosa*; but it is very evident to me that McCoy referred to the form of the segments, and not to the texture of the surface, which, indeed, in his description he distinctly stated is smooth.

This occurrence and description of the fossil were given later in the same words by McCoy in another publication in 1854 †.

In 1869 ‡ H. B. Brady recorded the discovery of similar organisms amongst Charles Moore’s foraminifera from “mineral veins,” and gave to them a generic name—*Carteria*. This

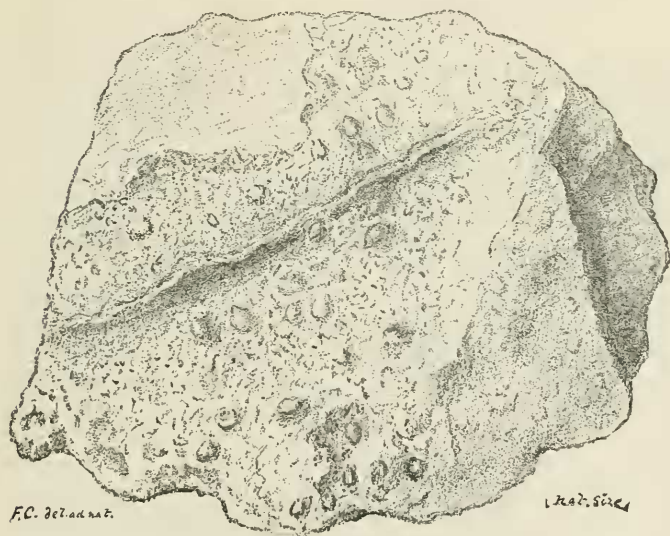
* *Op. cit.* p. 131.

† *Contrib. Brit. Palæont.* pp. 100, 101.

‡ *Rep. Brit. Assoc., Exeter Meeting*, p. 372.

name was, however, in 1871 * put aside for Sars's genus *Saccamina*, to which Brady saw they belonged. At various intervals since this time *S. Carteri* has been recorded from various horizons in the Carboniferous Limestones of England, Scotland, and Belgium. For the synonymy up to 1876 one may refer to Brady's monograph on the Carboniferous and Permian Foraminifera †.

The original specimens were stated by McCoy to be deposited in the collections of the University of Cambridge and Royal Dublin Society. To make the identification perfectly sure I have examined the specimen from the latter collection, which has the original label attached; and for this privilege



Saccamina fusuliniformis, McCoy, sp. On weathered surface of Carboniferous Limestone, Shivey, Co. Tyrone, Ireland. (From the original specimen in the Woodwardian Museum, Cambridge.)

I am indebted to the Director and Mr. H. Woods, the Curator of the Woodwardian Museum. The foraminifera on this original specimen have been weathered out of the limestone block and are quite comparable with the typical Carboniferous *Saccaminae*. Since no figure has hitherto been given of the original specimen, a portion of the limestone surface is now shown.

* Ann. & Mag. Nat. Hist. ser. 4, vol. vii. p. 177, pl. xii.

† Palæont. Soc. vol. xxx. 1876, p. 57.

For some specimens from Ireland containing *Saccamina fusuliniformis*, McCoy, sp., I am indebted to Miss M. K. Andrews, of Belfast, who has with great kindness furnished me with numerous samples of limestones and shales from various parts of Ireland, in order to further the study of their Microzoa. The Irish *Saccamineæ* thus lately obtained are from the Lower Limestone shales of Castle Espie, Co. Down.

XXXIV.—*On a Collection of Heterocera made in the Transvaal.* By W. L. DISTANT.

Noctuidæ.

IN dealing with this family of Transvaal moths a special fact is at once recognized—apparently also applicable to the Pyralidæ—which is, that the South-African Noctuids cannot be studied alone. Entomologists who may have had good reasons to conclude that in other groups of insects there is little community between the Ethiopian and Oriental faunas will find that the rule does not apply to these moths. Not only genera, but very many species, are common to the two regions, while others are of a more or less world-wide distribution and have an extended range in such unlikely areas as North and South America, Australia, &c. It will thus be seen that caution is necessary in describing South-African Noctuidæ, for many of these inhabitants of grassy plains have as wide a distribution as their natural surroundings. They are truly wanderers on the face of the earth, and many of these moderately small and obscure moths, which neither by habit nor coloration invite notice, must possess an antiquity commensurate to the requirements for their vast migration.

Of the 108 species here enumerated or described, the following 9 species have a

More or less universal distribution.

Heliothis armigera, Hübn.
Agrotis plecta, Linn.
Spodoptera mauritia, Boisd.
Prodenia littoralis, Boisd.
Caradrina exigua, Hübn.

Hyblæa puera, Cram.
Cosmophila erosa, Hübn.
Plusia eriosoma, Doubl.
Calpe capucina, Esp.

Of these 5 at least have been recorded from the American continent or adjacent islands.